



Express Mail No: EV 832910591 US

IN THE UNITED STATES PATENT AND
TRADEMARK OFFICE

Serial Number: 10/081,955
Filed: February 20, 2002
Applicants: George E. Seidel, Lisa Herickhoff, John Schenk
Title: Multiple Sexed Embryo Production System for Mammals Using
Low Numbers of Spermatozoa
TC/A.U: 1634
Examiner: Carla J. Meyers

Assignee: XY, Inc.
Attorney Docket: XY-Super-Cont2
Customer No. 33549

LETTER OF TRANSMITTAL

To: Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Enclosed for filing are the following documents:

1. a Petition for Extension of Time under 37 C.F.R. §1.136(a);
2. a Request for Continued Examination under 37 C.F.R. §1.114, (RCE) Transmittal form PTO/SB/30;
3. an Amendment and Request for Reconsideration Under 37 C.F.R. § 1.114;
4. an Information Disclosure Statement along with a copy of the foreign and non-patent literature references cited;
5. this Letter of Transmittal along with a Credit Card Payment form authorized in the amount of \$1,990.00 (\$790.00 for the RCE fee, \$1,020.00 for the 3-month extension of time fee, and \$180.00 for the IDS fee);

05/30/2007 NNGUYEN1 00000092 10081955

03 FC:1806

180.00 0P

6. Certificates of Express Mailing for the above documents and a postcard receipt for return to the undersigned.

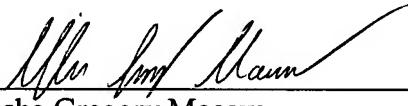
Please address all future correspondence to: Santangelo Law Offices, P.C., 125 South Howes, Third Floor, Fort Collins, CO 80521.

Please confirm receipt of the documents by applying your date stamp on the enclosed postcard and returning it to me.

I have this 24 day of May 2007, either myself personally or through my direction of staff at this office, deposited all of the items in the above letter of transmittal with the United States Postal Service as Express Mail, postage prepaid, in an envelope addressed to: Mail Stop RCE, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Dated this 24 day of May, 2007.

Respectfully submitted,
SANTANGELO LAW OFFICES, P.C.

By: 

Misha Gregory Macaw
Attorney for Assignee
USPTO Reg. No. 55,417
125 South Howes, Third Floor
Fort Collins, Colorado 80521
(970) 224-3100



Express Mail No. EV 832910591 US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT	APPLICATION NO:	10/081,955
	FILING DATE:	February 20, 2002
	FIRST NAMED	George Seidel
	ART UNIT:	1634
	EXAMINER NAME:	Carla J. Meyers
	DOCKET NO:	XY-Super-Cont2

I. US PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NO. & KIND CODE (if known)	PATENTEE OR APPLICANT	PUBLICATION/ISSUE DATE mm/dd/yyyy	Pages, Columns, Lines Where Relevant Passages Or Relevant Drawings Appear
	3,756,459	Bannister	9/4/1973	
	4,007,087	Ericsson	2/8/1977	
	4,559,309	Evenson	12/17/1985	
	5,017,497	De Groot	5/21/1991	
	5,559,032	Pomeroy et al.	9/24/1996	
	5,934,885	Farrell et al.	8/10/1999	
	7,094,527	Seidel et al.	8/22/2006	
	7,195,920	Seidel et al	3/27/2007	
	7,208,265	Schenk	4/24/2007	
	2005/00282245	Ludwig et al.	12/22/2005	
	2005/0244805 A1	Ludwig et al.	11/3/2005	
	20050011582 A1	Haug	1/20/2005	
	20050064383 A1	Bashkin et al.	3/24/2005	
	20050214733 A1	Graham et al.	9/29/2005	
	20060118167 A1	Neas et al.	6/8/2006	
	20060263829 A1	Evans et al.	11/15/2006	
	20060281176 A1	Seidel et al.	12/14/2006	
	20070026378 A1	Schenk	2/1/2007	
	20070026379 A1	Seidel et al	2/1/2007	
	20070042342 A1	Seidel et al.	2/22/2007	
	20070092860 A1	Schenk	4/26/2007	
	20070099171A1	Schenk	5/3/2007	
	20070099260 A1	Seidel et al.	5/3/2007	
	20070099260A1	Seidel et al.	5/3/2007	

II. FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	Foreign Patent Document Country Code, Number, Kind Code (if known)	PATENTEE OR APPLICANT NAME	PUB'N DATE mm-dd-yyyy	TRANSLATION	
				Yes	No
	UK 1471019	United Aircraft Corp.	4/21/1977		
	WO 2006012597 A2	Monsanto Technology LLC	2/2/2006		
	WO 2004/104178 A3	XY, Inc.	12/2/2004		
	WO 93/17322 A1	Univ. of Hertfordshire GB	9/02/1993		
	WO 2002041906 A2	Pharmacia Corp. (c/o Monsanto Company)	11/21/2001		
	WO 2003020877 A2	Pharmacia Corp. (c/o Monsanto Company)	8/15/2002		
	WO 2007/016090 A2	XY, Inc.	2/8/2007		
	EP 0140616	Technicon Instruments Corp.	5/8/1985		
	WO 1991/05236	Aerometrics, Inc.	4/18/1991		
	WO 2006060770A2	XY, Inc.	8/6/2006		
	ZL 03109426.0	Inner Mongolia Mengniu Reproductive Biotechnology Co. Ltd.	12/21/2005		

III. Non-patent Literature

EXAMINER INITIAL	Document
	Bedford, S. J. and Hinrichs, K., "The Effect of Insemination Volume on Pregnancy Rates of Pony Mares", <i>Therio</i> . 42:571-578. (1994)
	Berger, G. S. "Intratubal Insemination", <i>Fertil. Steril.</i> 48:328-330, (1987)
	Chin, W. W. and Boime, I. 1990. In <i>Glycoprotein Hormones</i> . Serona Symp. Norwell, MA. pp.19-20
	Pursel, et al, "Effect of Orvus ES Paste on Acrosome Morphology, Motility and Fertilizing Capacity of Frozen-Thawed Boar Sperm," <i>Journal of Animal Science</i> , 47:1:198-202 (1978)
	Waggoner, A. W., et al., "Performance, Carcass, Cartilage Calcium, Sensory and Collagen Traits of Longissimus Muscles of Open Versus 30-month-old Heifers That Produced One Calf." <i>J. Anim. Sci.</i> 68:2380. 1990
	Blecher, S.R., et al. A new approach to immunological sexing of sperm, <i>Theriogenology</i> , 59, pp. 1309-1321, 1999 Vol.
	Wheeler, M. B., et al. Application of sexed semen technology to in vitro embryo production in cattle, <i>Theriogenology</i> , Vol 65 (2006) 219-227
	Garverick, H. A., et al. mRNA and protein expression of P450 aromatase (AROM) and estrogen receptors (ER) α and β during early development of bovine fetal ovaries; The society for the study of reproduction 38th annual meeting July 24-27, 2005; Abstract only
	Bodmer, M., et al., Fertility in heifers and cows after low does insemination with sex-sorted and non-sorted sperm under field conditions; <i>Theriogenology</i> , Vol 64, (2005) 1647-1655
	Schenk J. L., et al. Embryo production from superovulated cattle following insemination of sexed sperm, <i>Theriogenology</i> , 65 (2006) 299-307
	Garner, D. L., Flow cytometric sexing of mammalian sperm, <i>Theriogenology</i> , 65 (2006) 943-957
	Habermann F. A., et al., Validation of sperm sexing in the cattle (<i>Bos taurus</i>) by dual colour fluorescence in situ hybridization; <i>J Anim Breed Genet.</i> 2005 Apr; 122 Suppl 1:22-7 (Abstract only)
	Johnson, L. A., Sexing mammalian sperm for production of offspring: the state-of-the-art; <i>Animal Reproduction Science</i> ; 60-61 (2000) pp 93-107
	Andersson, M. et al., Pregnancy Rates in Lactating Holstein-Greisian Cows after Artificial Insemination with Sexed Sperm. <i>Reprod. Dom. Anim.</i> 41, 95-97, 2006
	Morton, K. M., et al., In vitro and in vivo survival of bisected sheep embryos derived from frozen-thawed unsorted, and frozen-thawed sex-sorted and refrozen-thawed ram spermatozoa; <i>Theriogenology</i> , 65 (2006) 1333-1345
	Wilson, R. D., et al., In vitro production of bovine embryos using sex-sorted sperm, <i>Theriogenology</i> , 65 (2006) 1007-1015
	Johnson, L.A., et al, 1996 Gender preselection in mammals. XX Beltsville Symposium in Agricultural Research Technolgy's Role in the Genetic Improvement of Farm Animals. pp. 151-164, Amer. Soc. Anim. Sci. IL, USA.
	Smorag, Z., et al., Cattle Sex Regulation by Separation of X and Y Spermatozoa – Preliminary Results of Field Experiment in Poland, <i>Reproduction, Fertility and Development</i> 17(2) 306–306; 01/01/2005
	Crichton, E., et al. (Abstract) Artificial Insemination of Lactating Holstein Cows with Sexed Sperm, <i>Reproduction, Fertility and Development</i> 18(2) 281 - 281, 12/14/2005
	Lindsey, A.C., et al. Hysteroscopic insemination of low numbers of flow sorted fresh and frozen/thawed stallion spermatozoa, <i>Equine Vet J.</i> 2002 Mar;34(2):106-7.

	Drobnis, E. Z, Cold shock damage is due to lipid phase transitions in cell membranes : a demonstration using sperm as a model, <i>Journal of experimental zoology (J. exp. zool.)</i> 1993, vol. 265, no4, pp. 432-437 (22 ref.)
	Hagele, W.C., et al., Effect of Separating Bull Semen into X and Y Chromosome-bearing Fractions on the Sex Ratio of Resulting Embryos; <i>Cran J. Comp. Med</i> , 1984: 48:294-298
	Suh, T.K, et al., Pressure during flow sorting of bull sperm affects post-thaw motility characteristics; <i>Theriogenology</i> Vol. 59, No. 1, January 2003 p 516
	Rath, D, et al., In Vitro Production of Sexed Embryos for Gender Preselection: High-speed sorting of X-Chromosome-Bearing Sperm to Produce Pigs After Embryo Transfer, <i>J. Anim. Sci.</i> 1999, 77:3346-3352
	Auchtung, T.L., et al., Effects of Photoperiod During the Dry Period on Prolactin, Prolactin Receptor, and Milk Production of Dairy Cows; <i>Journal of Dairy Sci.</i> 88: 121-127; American Dairy Sci. Assoc., 2005.
	Bailey, Tom and Currin, John Milk Production Evaluation In First Lactation Heifers; 1999 Virginia Cooperation Extension/Dairy Science Publication 404-285
	Belloin, J.C., Milk and Dairy products: prduction and processing costs Food and Agriculture Organization of United Nations Rome 1988 FAO; web page where found: www.fao.org/docrep/003/x6931e/X6931E00.htm
	Kume, Shin-ichi; Dept of Animal Nutrition National Institute of Animal Industry Tsukuba 305, Japan THE DAIRY INDUSTRY \$IN ASIA B. JAPAN; www.agnet.org/library/article/eb384b.html
	Crichton,E.; Huffman,S.;McSweeney,K.;and Schenk, J. 347 Artificial Insemination of Lactating Holstein Cows with sexed sperm: Abstract CSORP Publishing - Reproduction, Fertility and Development www.publish.csiro.au/nid/44/paper/RDv18n2Ab347.htm
	Lopez, H.,Caraviello, D.Z., Satter, L.D. ,Fricke, P.M. and Wiltbank, M.C.; Relationship Between Level of Milk Production and Multiple Ovulation in Lactating Dairy Cows <i>Journal of Dairy Sci.</i> 88:2783-2793; American Dairy Science Association, 2005.
	Managing the Dairy Cow During the Dry Period; <i>Dairy Cattle Production</i> 341-450A; Macdonald Campus of McGill University/Faculty of Agricultural & Environmental Sciences/Department of Animal Science
	Milk Production and Biosynthesis University of Guelph/Dairy Science and Technology www.foodsci.uoguelph.ca/dairyedu/biosyntheses.html
	MILK PRODUCTION Released 7-18-2006, by the National Agricultural Statistics Service (NASS), Agri. Stats. Board, US Dept of Agri.
	De Vries, A. Economic Value of Pregnancy in Dairy Cattle <i>Journal of Dairy Sci.</i> 89:3876-3885/American Dairy Sci. Assoc. 2006
	Garner, D.L. et al., Viability Assessment of Mammalian Sperm Using SYBR-14 and Propidium Iodide, 1996, <i>Biology of Reporduction</i> , Vol.53, pp 276-284
	Salisbury, G.W. et al., Substrate-Free Epididymal-Like Bovine Spermatozoa, <i>J Reprod Fertil</i> , 1963, Vol. 6, pp. 351-359
	Wong, P.Y.D., et al. Potassium Movement During sodium-Induced Motility Initiation in the Rat Caudal Epididymal Spermatozoa; <i>Biology of Reproduction</i> 28, 206-212 (1983)
	Shirai, H., et al. Regulation of Sperm Motility in Starfish; <i>Development, Growth, and Differentiation</i> ; 24, (5), 419-428 (1982)
	Padilla, A.W. et al. Extender and Centrifugation Effects on the Motility Patterns of Slow-Cooled Stallion Spermatozoa; <i>J. Anim. Sci</i> 1991, 69:3308-3313

	Ohta H., et al., Acquisition and Loss of Potential for Motility Of spermatozoa of the Japanese Eel <i>Anguilla Japonica</i> , National Research Institute of Aquaculture, UNJR Aquaculture; 28th Panel Proceedings (1999)
	Morisawa, M. The Process of the Initiation of Sperm Motility; Laboratory of Physiology, Ocean Research Institute, University of Tokyo (1986)
	McGrady, A.V., et al. Cholinergic Effects on Bull and Chimpanzee Sperm Motility; Biology of Reproduction 15, 248-253 (1976)
	Klinc, P. Dissertation - Improved Fertility of Flowcytometrically Sex Selected Bull Spermatozoa , School of Veterinary Medicine Hanover Germany, 2005
	Jones, J.M. et al Acidification of Intracellular pH in Bovine Spermatozoa Suppresses Motility and Extends Viable Life, Journal of Andrology, Vol. 21, No. 5, September/October 616-624
	Jenkins, A. D., et al. Concentrations of Seven Elements in the Intraluminal Fluids of the Rat Seminiferous Tubules, ReteTestis, and Epididymis; Biology of Reproduction 23, 981-987 (1980)
	Darszon, A., et al. Ion Channels in Sperm Physiology, Physiological Reviews, Vol. 27, No. 2, April 1999
	Christen, R., et al. Metabolism of Sea Urchin Sperm, the Journal of Biological Chemistry, Vol 25, NO. 9, Issue of May 10, pp.
	Babcock, D. F., et al. Potassium-dependent increases in cytosolic pH stimulate metabolism and motility of mammalian sperm, Proc. Natl. Acad. Sci. USA, Vol. 80, pp. 1327-1331, March 1983
	Zilli, L., et al. Adenosine Triphosphate Concentration and β -D-Glucuronidase Activity as Indicators of Sea Bass Semen Quality; Biology of Reproduction 70, 1679-1684 (2004) Published online before print 11 February 2004.
	Hanania, E. G., et al. A novel Automated Method of Scanning Cytometry and Laser-Induced Necrosis Applied to Tumor Cell Purging, Blood. 15 November 1999, Vol. 94, No. 10, suppl 1 part 1
	Purdy, P. H. et al., Effect of Adding Cholesterol to Bull Sperm Membranes on Sperm Capacitation, the Acrosome Reaction, and Fertility, Biology of Reproduction 71, 522-527 (2004)
	Purdy, P. H. et al., Effect of cholesterol-loaded cyclodextrin on the cryosurvival of bull sperm, Cryobiology 48 (2004) 36-45
	Moce E., et al., Cholesterol-loaded cyclodextrins added to fresh bull ejaculates improve sperm cryosurvival, J. Anim. Sci, 2006, 84:826-833
	Ereth, B.A., et al. Integration of Early Weaning and Sexed Semen into a Single-Calf Heifer System to Increase Value of Non-Replacement Heifers; Proceedings, Western Section, American Society of Animal Science, Vol. 51, 441-443, June 2000
	Ereth, B.A., et al. Integration of Early Weaning and Sexed Semen into a Single-Calf Heifer System to Increase Value of Non-Replacement Heifers; Abstract Only, Journal of Animal Science, Vol. 78, Supplement 2, 2000
	Bavister, B.D. et al., The effects of Sperm Extracts and Energy Sources on the Motility and Acrosome Reaction of hamster Spermatozoa in vitro; Biology of Reproduction 16, 228-237 (1997)
	Fattouh, El-S.M. et al., Effect of Caffeine on the Post-Thaw Motility of Buffalo Spermatozoa; Theriogenology, July 1991, vol. 36 No. 1
	Koh-ichi Hamano, et al., Gender Preselection in Cattle with Intracytoplasmically injected, flow cytometrically sorted sperm heads, Biology of Reproduction 60, 1194-1197 (1990)
	Hollinshead, F.K. et al., Birth of lambs of pre-determined sex after in vitro production of embryos using frozen-thawed sex-sorted and re-frozen-thawed ram spermatozoa, Reproduction (Cambridge, England) May 2004, Vol. 127, o. 5, pages 557-568

	Nikkei Biotech, Supplement, Latest Information of Biological Instruments and Reagents, 19988, pp. 93-94
	Parallel Japanese Application Number 2000-526614, Office Action dated May 24, 2006.
	Parallel Japanese Application Number 2002-044035, Office Action dated May 24, 2006.
	Parallel Russian Application Number SE 2290/17; Office Action dated March 24, 2006
	US Application Number 09/582,809; Office Action dated May 1, 2006
	US Application Number 09/582,809, Office action dated January 18, 2007
	US Application Number 10/378,109; Office action dated February 15, 2006
	US Application Number 10/378,109; Office action dated August 31, 2006
	US Application Number 10/378,109; Office action dated August 31, 2006
EXAMINER:	DATE CONSIDERED
EXAMINER: Please initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.	



Express Mail No: EV 832910591 US

IN THE UNITED STATES PATENT AND
TRADEMARK OFFICE

Serial Number: 10/081,955
Filed: February 20, 2002
Applicants: George E. Seidel, Lisa Herickhoff, John Schenk
Title: Multiple Sexed Embryo Production System for Mammals Using Low
Numbers of Spermatozoa
TC/A.U: 1634
Examiner: Carla J. Meyers

Assignee: XY, Inc.
Attorney Docket: XY-Super-Cont2
Customer No. 33549

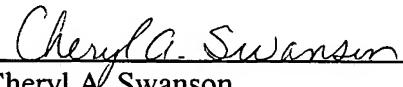
CERTIFICATE OF EXPRESS MAILING

I, Cheryl A. Swanson, hereby certify to the truth of the following items:

1. I am an employee of Santangelo Law Offices, P.C., 125 South Howes, Third Floor, Fort Collins, Colorado 80521.

2. I have this day deposited the attached Information Disclosure Statement along with a copy of the foreign and non-patent literature references cited with the United States Postal Service as Express Mail, postage prepaid, for mailing to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Dated this 24 day of May, 2007.



Cheryl A. Swanson